

PM 1319 Patent Application (Parent)

Proposed Amended Claims

1. A heat source for use in a smoking article comprising a body of carbon-containing material having one or more longitudinal fluid passages therethrough characterized in that the or each passage (22) is defined by a plurality of intersecting surfaces, the geometric surface area of said fluid passages being at least about equal to the outside geometric surface area of the heat source (20).
2. The heat source of claim 1 wherein said one or more fluid passages (22) are formed in the shape of multi-pointed stars.
3. The heat source of claim 1 or 2 wherein the heat source (20) is substantially cylindrical.
4. The heat source of claim 1, 2 or 3 wherein said heat source (20) is comprised of charcoal.
5. The heat source of claim 4 characterised by a density of 0.2 g/cc to 1.5 g/cc, preferably 0.5 g/cc to 0.8 g/cc.
6. The heat source of claim 4 or 5 characterised by a void volume of at least 50%, preferably 50% to 60%.
7. The heat source of any of claims 4 to 7 characterised by a pore size of 1 μ m to 2 μ m.
8. The heat source of any of claims 4 to 7 characterised by an ash-forming inorganic substances content of up to 18%, preferably up to 8%.
9. The heat source of any of claims 4 to 8 wherein said heat source contains at least one burn additive, preferably one or more of potassium citrate, potassium carbonate, iron oxide,

calcium oxalate, iron oxalate, potassium ions, iron ions, ferric citrate, ferrous acetate, a molybdenum compound, an aluminium compound, a calcium compound, a magnesium compound, a sodium compound, and oxidizers.

10. A process for making a heat source for a smoking article which comprises mixing charcoal particles with one or more additives, forming the charcoal and additive mixture into a desired shape and baking the shaped mixture, characterized in that the mixture is extruded or moulded into a body having longitudinal passages therethrough which are defined by a plurality of intersecting surfaces, the geometric surface area of said fluid passages being at least about equal to the outside geometric surface area of the heat source.

11. The process of claim 10 wherein said charcoal particles are ground to not more than 700 μm in size, preferably from 5 μm to 30 μm .

12. The process of claim 10 or 11 wherein said charcoal particles have a BET surface area in the range of 50 m^2/g to 2000 m^2/g , preferably 200 to 600 m^2/g .

13. The process of any of claims 10 to 12 wherein one of said additives is a binder.

14. The process of claim 13 wherein said binder is a two-part binder, of which one binder is flour, preferably selected from wheat, barley, corn, rye, rice, sorghum, mayo, soybean, oat, and combinations thereof, and the other binder is a monosaccharide or disaccharide, preferably sucrose.

15. The process of any of claims 10 to 14 further comprising adding oil to said charcoal and additives prior to extrusion of the mixture, preferably a vegetable oil such as corn oil.

16. The process of any of claims 10 to 15 wherein said baking is performed at a temperature of from 260 to 1648°C, preferably

from 760 to 982°C.

17. The process of any of claims 10 to 16 wherein said baking step is performed in an inert atmosphere such as helium or argon.

18. The process of any of claims 10 to 17 further comprising drying said extruded or molded charcoal and additives prior to baking, preferably to a moisture content of between 2 and 11 percent.

19. The process of any of claims 10 and 18 further comprising cooling said extruded or molded charcoal and additives after baking, preferably to below 93°C in an inert atmosphere or an atmosphere of inert gases and oxygen or oxygen compounds.